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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/014,680	12/11/2001	Vijay Khawshe	5298-07400 CD01161	3210
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EXAMINER

LUU, AN T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 04/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,680

Applicant(s)

KHAWSHE, VIJAY

Examiner

An T. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 13 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 6, 12, 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Applicant's Amendment filed on 2-21-03 has been received and entered in the case. The rejections set forth in the previous Office Action are maintained as indicated below.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-11, 13 and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by the Allevan reference (U. S. Patent 5,929,664).

Allevan discloses in figure 13 an apparatus comprising a comparator 302 having an output (coupled to gate terminal of N1) and a pair of inputs (positive and negative terminals), wherein the pair of inputs are adapted to receive an output signal produced from the circuit (gate control signal via transistor N2) and a reference voltage Vref forward to the circuit, and wherein the apparatus further comprises a pull-down transistor N1 coupled to one of the pair of inputs (Gate Control) and the output; and a pull down transistor P1 coupled between a power supply and one of the pair of input (gate Control) as required by claim 1. It is noted that transistor P1 is configured as an inverter to pull up node Output to the power supply as shown in figure 13. Further, a transistor is seen to be "coupled between" devices or elements if these devices are connected to any two terminals of the transistor. It does not have to be drain-source coupling.

As to claim 2, figure 13 shows the output signal (Gate Control signal) is coupled to the positive input terminal.

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As to claim 3, figure 13 shows the output signal (Gate Control signal) is coupled to the positive input terminal and the reference voltage signal is coupled to the negative input terminal.

As to claim 4, transistor N1 in figure 13 is an n-channel transistor having a source-drain current path between the output signal and ground via transistor N2 and current source Is2, respectively. In operation, transistor N2 is ON when the output of comparator is HIGH whenever the positive terminal (the output signal) exceeds the reference voltage.

As to claim 5, figure 13 shows a current source Is1 coupled in parallel with the pull-down transistor N1 between ground and positive terminal input.

As to claims 7-11 and 13, the scopes of these claims are similar to those of claims 1-5. Therefore, they are rejected for the same reasons set forth above. Specifically, figure 13 shows a circuit comprising current source Is3 and transistor P2 for maintaining a reference voltage Vref between the positive and negative voltage peaks (Vcc and Ground) as required by claim 7. The recitations of claims 8-11 and 13 simply recite the operational results derived from an apparatus recited in claims 1-5.

As to claims 16-19, they are rejected for being reciting method and/or steps derived from an apparatus recited in claims 1-5 noted above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Alleven reference (U.S Patent 5,929,664).

Alleven discloses all the claimed invention of claim except for an optical signal transmitter coupled to receive the output signal. It would have been obvious to one skilled in the art to connect an optical transmitter device, or any other device for that matters, to the output of Alleven's apparatus because Alleven's apparatus is seen as an intermediate step to provide a desired signal for further processing. Therefore, the existence of "an optical signal transmitter", or lack of it, would not affect the operation characteristic of the apparatus. In fact, claim 15 merely claims one of applications wherein Alleven's invention could be utilized. And it would have been obvious for one skilled in the art to employ the invention in any environment that meets requirement of an application.

Response to Arguments

5. Applicant's arguments filed 2-21-03 have been fully considered but they are not persuasive.

Regarding to the rejection of claim 1, Applicant has pointed out that "pull-up transistor" limitation was an allowable feature as indicated in the last Office Action. And Applicant has amended claim 1 to include "pull-up transistor" limitation and argued that Alleven does not teach a pull-up transistor. Examiner agrees that "pull-up transistor" limitation in claim 6 is an allowable feature. However, "pull-up transistor" limitation in newly amended claim 1 is **not** that of claim 6 as indicated. The allowable feature of claim 6 calls for a pull-up transistor having

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source-to-drain current path coupled between the power supply voltage and one of the pair of inputs.

As to claim 7, Applicant has argued that Alleven's structure (pull-down transistor and comparator) cannot be construed to teach or suggest a means for fixing a minimum voltage of an output signal...in proportion to changes in the reference voltage. Examiner respectfully disagrees because Alleven discloses elements being configured exactly as the recitation of claim 7. If the entire structure of claim is met by prior art, by necessity, the functional limitations of claim(s) will also inherently be met. Operationally, limitation "for fixing a minimum voltage of the output signal to a voltage approximately equal to the reference voltage" is inherent by structure shown in figure 13 of Alleven because comparator 302 is a comparator for outputting a difference of its inputs. And limitation "whereby the pulse width...reference voltage" is a result derived from the apparatus. If Applicant still believes that there is different functionality between his invention and that of Alleven, then Applicant's invention must include further element(s) or connection(s) not met by the prior art.

As to claim 16, Applicant has argued that the operation of Alleven's invention described in figure 9 is different from that of the instant application. Examiner respectfully reminds Applicant that the rejection of claim 16 is based on figure 13, not figure 9. Therefore, Applicant's argument is considered to be irrelevant.

Again, if the entire structure of claim is met by prior art, by necessity, the functional limitations of claim(s) will also inherently be met. Claims 16-19 recite method(s) derived from a rejected apparatus claimed in claims 17-11 and 13 of the instant application. Therefore, their functional limitation(s) of claim(s) read on the prior as well.

Allowable Subject Matter

6. Claims 6, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose an apparatus comprising element being configured as recited in claims. Specifically, none of the prior art teaches or fairly suggests “a pull-up transistor” limitation as required in claim 6; “the comparator is predetermined to preclude a voltage of the output signal from being less than the reference voltage” limitation as required by claim 12; and “the comparator comprises a predefined slew rate and/or gain so that an output voltage from the comparator will not go below a threshold voltage of the pull-down transistor” as required in claim 14.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 703-308-4922. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

An T. Luu *ATL*
March 24, 2003


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800